

**REMARKS**

Claims 1-4, 17, 18, 25, 26 and 33 are all the claims pending in the application.

**I. Objection to Title of the Invention**

The Examiner has objected to the title as not being descriptive. Applicant respectfully submits that the title to the invention is descriptive.

**II. Claim Objections**

The Examiner objected to claims 1, 17 and 25 for containing a number of typographical errors. Applicant has cancelled claim 17 and respectfully submits that claims 1 and 25 contain no typographical errors.

**III. Claim Rejections under 35 U.S.C. § 101**

Claims 17-18 are rejected under 35 U.S.C. § 101 because the Examiner alleges that the claimed invention is directed to non-statutory subject matter. The Examiner has suggested amending claims 17-18 to embody the program on a "computer-readable medium" and to exclude any intangible media. Claims 17-18 have been cancelled rendering the 35 U.S.C. § 101 rejection moot. Accordingly, Applicant respectfully requests for the Examiner to withdraw the 35 U.S.C. § 101 rejection.

#### IV. Claim Rejections under 35 U.S.C. § 102

Claims 1, 2, 4, 17, 18, 25, 26 and 33 are rejected under 35 U.S.C. § 102(b) as being anticipated by Jones et al. (U.S. Patent No. 7,099,510). Applicant traverses this rejection because the cited reference fails to disclose or suggest all of the claim limitations.

##### Claim 1

Claim 1 recites, *inter alia*:

"A data learning apparatus comprising:

first learning means for deriving a temporary self-organizing map in which classes are associated with respective vector points of reference feature vectors by learning **first learning data including a plurality of first sample feature vectors for each of which a corresponding class is known**; and . . .

wherein the second learning means includes:

second vector specifying means for reading one of the second sample feature vectors out of the second learning data and **specifying a second learning winner vector on the temporary self-organizing map which has the highest similarity to said one of the second sample feature vectors**;

modification means for comparing a class associated with a vector point of the second learning winner vector to a corresponding class of said one of the second sample feature vectors indicated by the second learning data and, when the class associated with the vector point of the second learning winner vector is not identical to the corresponding class indicated by the second learning data, **modifying the second learning winner vector and a plurality of reference feature vectors distributed in a second learning vicinity of the second learning winner vector on the temporary self-organizing map so as to reduce the similarity thereof to said one of the second sample feature vectors . . .**"

The Examiner asserts that the classifier 30 of Jones, which evaluates an image 22 or part of an image 22 to determine if an instance 38 of the object is present, anticipates a portion of claim 1 (see page 5 of Office Action). Applicant respectfully disagrees.

Applicant respectfully submits that Jones does not teach “first learning data including a plurality of first sample feature vectors for each of which a corresponding class is known” as recited in claim 1. Instead, the classifier 30 of Jones uses **one or more rectangular features 54 to detect objects within an image** (Jones; col. 7, lns. 50-54). As illustrated in Figures 3 and 4, Jones utilizes **rectangular features 54 imposed on an image to enable the classifier 30 to detect a pattern, line, face, or cheeks on a face**, which are indicated by 54B, 54B-1, and 54B-2 (Jones; col. 7, lns. 53-60). Jones specifically teaches that the rectangular features are used over pixel analysis because the rectangular features allow for a quicker evaluation of whether an object is present within an image (Jones; col. 7, lns. 60-65). Consequently, Jones neither teaches nor suggests that the classifier 30 uses “**first learning data including a plurality of first sample feature vectors** for each of which a corresponding class is known” as recited in claim 1.

The Examiner also asserts that the ability of the classifier 30 to compare more than one feature 54 to the threshold value anticipates a portion of claim 1. *See* page 6 of Office Action.

Applicant respectfully submits that the ability of the classifier 30 to account for more than one rectangular feature 54 in the classification function neither teaches nor suggests “specifying a second learning winner vector on a temporary self-organizing map which has the

highest similarity to said one of the second sample feature vectors” as recited in claim 1.

Instead, Jones teaches that the classification function assigns a unique weight to each rectangular feature 54 and computes the weighted sum (Jones; col. 8, lns. 31-35). Then the classification function compares the weighted sum to the predetermined threshold value (Jones; col. 8, lns. 15-21). If the weighted sum is greater than the threshold value, the classifier 30 returns TRUE and FALSE when the weighted sum is less than the threshold value (Jones; col. 8, lns.21-25).

**Therefore, Jones merely makes a comparison between the weighted sum of the rectangular features 54 with a predetermined threshold value.** Consequently, Jones does not teach or suggest “specifying a second learning winner vector on the temporary self-organizing map which has the highest similarity to said one of the second sample feature vectors” as recited in claim 1.

Lastly, the Examiner asserts that the AdaBoost approach of selecting small sets of rectangular features 54 for each classifier 30 anticipates “modifying the second learning winner vector and a plurality of reference feature vectors distributed in a second learning vicinity of the second learning winner vector on the temporary self-organizing map so as to reduce the similarity thereof to said one of the second sample feature vectors” as recited in claim 1. *See* pages 6-7 of Office Action.

Applicant respectfully submits that the AdaBoost feature of Jones neither teaches nor suggests this portion of claim 1. As with the previously discussed analysis performed by Jones, the **AdaBoost approach analyzes rectangular features 54** to determine the optimal

classification function for each controller 30 (Jones; col. 12, lns. 25-51). Therefore, Jones does not teach or suggest “**modifying the second learning winner vector and a plurality of reference feature vectors** distributed in a second learning vicinity of the second learning winner vector on the temporary self-organizing map so as to reduce the similarity thereof to said one of the second sample feature vectors” as recited in claim 1.

For at least the reasons stated above, Applicant respectfully submits that claim 1 is not taught by cited prior art. Further, due to their dependency on claim 1, Applicant respectfully submits that claims 2 and 4 are patentable over the cited art. To the extent that independent claims 17, 25, and 33 recite similar matter, Applicant respectfully submits that claims 17, 25, and 33 are patentable over the cited prior art. Further, due to their dependency on claims 17 and 25, respectively, Applicant respectfully submits that claims 18 and 26 are also patentable over the cited prior art.

Accordingly, Applicant respectfully requests for the Examiner to withdraw the 35 U.S.C. § 102(b) rejection.

#### **V. Allowable Subject Matter**

The Examiner has indicated that claim 3 contains allowable subject matter and would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicant does not wish to amend the claims at the present time.

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application. No. 10/806,476

Attorney Docket No.: Q80581

## VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

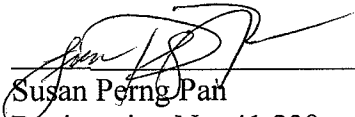
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